

International Journal of Agriculture Extension and Social Development

Volume 8; Issue 10; October 2025; Page No. 94-96

Received: 25-07-2025
Accepted: 29-08-2025

Indexed Journal
Peer Reviewed Journal

A study on adoption of recommended cultivation practices of URD growers in Mirzapur District of Uttar Pradesh

¹Abhishek Sonkar, ²Jahanara, ³Shubham Jain and ⁴Abhishek Sonkar

¹M.Sc. Scholar, Department of Agricultural Extension, College of Agriculture, SHUATS, Uttar Pradesh, India

²Professor & Head, Department of Agricultural Extension, College of Agriculture, SHUATS, Uttar Pradesh, India

³Assistant Professor, Department of Horticulture, Gyanveer University, Sagar, Madhya Pradesh, India

⁴Research Scholar Department of Fruit Science, College of Horticulture & Forestry, Acharya Narendra Deva University of Agriculture & Technology, Kumarganj, Ayodhya, Uttar Pradesh, India

DOI: <https://www.doi.org/10.33545/26180723.2025.v8.i10b.2509>

Corresponding Author: Abhishek Sonkar

Abstract

The present study was conducted to assess the adoption of recommended cultivation practices of Urd bean (*Vigna mungo* L.) among growers. A total of 120 respondents were selected randomly. Findings revealed that majority (81.67%) of the respondents had medium level of adoption, while 8.33% and 10% had low and high adoption levels, respectively. Among individual practices, 100% of the farmers had adopted recommended soil preparation, planting material, sowing time, and cultural practices. Adoption of improved varieties was reported by 82.5% respondents, while recommended spacing was adopted by only 50.83%. Application of FYM (79.16%), chemical fertilizers (66.66%), and water management (80.84%) showed partial adoption. Control measures for diseases and insect pests were adopted by 55% and 73.33% farmers, respectively. The study suggests that while overall adoption level was medium, extension efforts need to focus on practices with lower adoption such as spacing, fertilizer use, and plant protection measures.

Keywords: Urd bean, *Vigna mungo*, adoption, recommended cultivation practices

Introduction

Pulses play a vital role in Indian agriculture as they are the primary source of protein for a large section of the vegetarian population. Among the pulses, Urd bean (*Vigna mungo* L.), also known as black gram, occupies an important place due to its nutritional value, short duration, and suitability for multiple cropping systems. It is widely cultivated across India both as a kharif and summer crop, contributing significantly to food security and farm income. Despite the availability of high-yielding varieties and improved production technologies, the productivity of Urd bean in India remains much lower than its potential. One of the major reasons for this yield gap is the partial or non-adoption of recommended cultivation practices by farmers. While some practices like sowing time, soil preparation, and cultural operations are commonly followed, others such as adoption of improved varieties, recommended spacing, balanced fertilizer application, and plant protection measures are often neglected.

Studying the adoption pattern of farmers provides valuable insights into the extent to which recommended technologies are being utilized at the field level. It also helps in identifying constraints and weak adoption areas where extension efforts need to be strengthened. Such research is particularly important in pulse crops like Urd bean, where yield improvements directly influence nutritional security,

farm profitability, and sustainability of cropping systems.

Keeping these facts in view, the present investigation was undertaken with the objective to assess the overall adoption level as well as adoption of individual recommended cultivation practices of Urd bean growers in the study area.

Methodology

This study was conducted in Mirzapur district of Uttar Pradesh. Total of 120 farmers were selected as respondents. The responses were obtained by means of well-structured, pre-tested interviews schedule through personal interaction, and the data was compiled, tabulated, and assessed to formulate conclusions. The statistical methods utilized were percentage, mean score, standard deviation, and coefficient of correlation.

To assess the Adoption level of the respondents, a adoption index test was designed. The Adoption test included every component of the Improved package of practices of urd to determine existing level of respondents' adoption about the crop.

To determine the level of adoption, overall score for each respondent was categorized into three groups on basis of overall adoption score:

1. Low level of adoption [X-S.D.]
2. Medium level of adoption [X-S.D. to X+S.D.]
3. High level of adoption [X+S.D.]

Frequency and percentage of respondents in each category i.e., low, medium and high were calculated.

Results and Discussion

Overall adoption level of Urd bean grower about recommended cultivation Practices.

The analysis of the data in Table 1 revealed that majority of (82.5%) of the respondents had medium level of adoption of the cultivation practices followed while majority (9.16%) of the low and high (8.33%) level adoption of recommended cultivation practices. Similar finding are also reported.

Table 1: Overall adoption of Urd bean grower about recommended cultivation practices.

S. No.	Categories	Frequency	Percentage
1.	Low	10	8.33
2.	Medium	98	81.67
3.	High	12	10
	Total	120	100.00

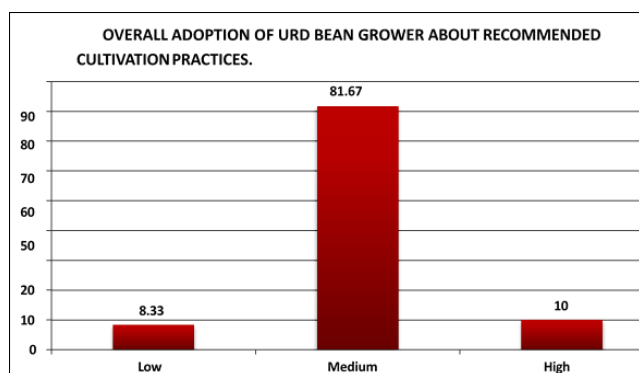


Fig 1: Overall adoption of Urd grower about recommended cultivation practices

Table 2: Adoption of individual recommended cultivation practices of Urd growers

S. No.	Particular	Frequency	Percentage
1.	Recommended Varieties	9	82.5
2.	Soil and its preparation	120	100
3.	Planting material	120	100
4.	Spacing	61	50.83
5.	Sowing time	120	100
6.	FYM	95	79.16
7.	N.P.K	80	66.66
8.	Cultural practices	120	100
9.	Water management	97	80.84
Diseases			
10.	Control measure as recommended	66	55
Insect pest			
11.	Control measure as recommended	88	73

Adoption of individual recommended cultivation practices of Urd growers

The practice-wise adoption status is given in Table 2, which highlights the specific areas of strength and weakness in adoption:

- 1. Recommended Varieties:** About 82.5% of respondents adopted improved varieties such as *Pant U-1*, *Azad-1*, *Pant U-35*, and *T-9*. This shows satisfactory adoption, but still indicates a need for strengthening seed distribution and awareness about varietal replacement.

- 2. Soil Preparation & Planting Material:** Cent percent farmers adopted the recommended soil preparation practices and quality planting material. This could be due to ease of adoption and traditional alignment with local practices.
- 3. Spacing:** Only 50.83% of respondents followed recommended spacing. Improper spacing leads to overcrowding and affects yield adversely. The low adoption might be due to lack of awareness and limited extension emphasis on plant geometry.
- 4. Sowing Time:** All farmers (100%) adhered to the recommended sowing time, as this practice is well established in the local farming culture and farmers are well aware of the adverse effects of delayed sowing.
- 5. Manure and Fertilizers:** Adoption of FYM application was high (79.16%), as organic manure is easily available. However, adoption of chemical fertilizers (NPK) was comparatively lower (66.66%), possibly due to lack of awareness about balanced fertilizer use, high cost, or irregular availability.
- 6. Cultural Practices:** Cent percent farmers followed cultural practices like weeding, thinning, and intercultural operations, showing that traditional practices are fully integrated into farmer's behavior.
- 7. Water Management:** About 80.84% of respondents adopted recommended water management practices. Partial adoption may be linked to irrigation constraints in rainfed areas.
- 8. Plant Protection Measures:** Adoption of disease control measures was only 55%, while 73.33% followed insect-pest control measures. The relatively lower adoption in plant protection could be due to high input costs, lack of technical knowledge, and limited availability of pesticides at the right time.
- 9. Yield:** Cent percent of respondents reported adoption of yield-enhancing practices, which reflects the ultimate goal of technology adoption by farmers.

Discussion

The results clearly show that while basic and traditional practices (soil preparation, sowing time, cultural practices) have very high adoption, the adoption of scientific and resource-demanding practices (spacing, balanced fertilizer use, and plant protection measures) is still low. This indicates a gap between awareness and practice, largely influenced by socio-economic constraints, availability of inputs, and extension reach.

The medium adoption level overall signifies that farmers are in a transition stage—neither completely traditional nor fully modernized. Strengthening extension programmes, ensuring timely supply of quality seed and fertilizers, and providing training on pest and disease management can significantly improve adoption.

Conclusion

The study revealed that the majority of Urd bean growers had a medium level of adoption of recommended cultivation practices, followed by a small proportion with high and low adoption levels. Full adoption was observed in practices such as soil preparation, planting material, sowing time, cultural practices, and yield-related measures, indicating that farmers are comfortable with traditional and easily

manageable practices. However, comparatively low adoption was found in recommended spacing (50.83%), fertilizer application (66.66%), and disease control measures (55%).

These findings highlight that while Urd bean growers are aware of improved technologies, their adoption is partial and uneven across different practices. The main reasons could be lack of technical knowledge, high cost of inputs, and inadequate extension support.

It can be concluded that there is a need for strengthening extension services through awareness programmes, demonstrations, and farmer trainings, particularly focusing on fertilizer management, plant protection measures, and scientific spacing. Ensuring timely availability of quality inputs and building farmers' confidence in modern practices will help in achieving higher adoption, which in turn will contribute to increased productivity, profitability, and sustainability of Urd bean cultivation.

References

1. Dhayal BL, Mehta BM. Study on knowledge and adoption of green gram production technology by farmers in Chhotadaipur district of Gujarat. *Agric Update*. 2015;10(4):318-22.
2. Dwivedi AP, Singh SRK, Mishra A, Singh RP, Singh M. Adoption of improved production technology of pigeonpea. *J Community Mobiliz Sustain Dev*. 2011;6(2):150-4.
3. Girase KA, Kamble LP. Constraints in adoption of fertilizers and plant protection measures in dryland bajra cultivation. *Maha J Ext Edu*. 2016;10(1):41-4.
4. Karpagam C. Study on the knowledge and adoption behaviour of turmeric growers in Erode district of Tamil Nadu State. University of Agricultural Sciences; 2000.
5. Khuspe SB, Kadam RP. Adoption gap in recommended production practices of chickpea. *Agric Update*. 2012;7(3-4):301-3.
6. Kushwaha RK, Prakash A. Adoption level of plant protection measures in different crops. In: National Symposium on Respective in Ecofriendly Approaches to Plant Protection; 2019 Jul 7-8. p. 29.
7. Meena NR, Sisodia SS, Dangi KL, Jain HK, Chakravarti D. Adoption of improved cluster bean cultivation practices by the farmers. *Rajasthan J Ext Edu*. 2011;19:101-3.
8. Meena RK. Knowledge and adaptation of recommended cultivation practices of onion by the farmers of Datan Ramgarh panchayat samiti in Sikar district of Rajasthan. Dr. B.R. Ambedkar University, Agra; 2006.
9. Meena S. Knowledge and adoption of farmers on management of pod borer in chickpea crop under rainfed condition of Rajasthan. *Indian J Dryland Agric Res Dev*. 2015;30(1):77-82.
10. Meena NA, Singh V, Singh G. Adoption of improved practices of pigeonpea. *J Food Legumes*. 2013;26(1-2):93-5.
11. Nain MS, Kumbhare NV, Sharma JP, Chahal VP, Bahal R. Status, adoption gap and way forward of pulses production in India. *Indian J Agric Sci*. 2015;85(8):1017-25.
12. Meena RK. Adoption of improved cultivation practices of tomato by the farmers of Bassi panchayat samiti of Jaipur district (Raj). RAU Campus, Jobner; 2002.
13. Poswal CS. Adoption of improved sugarcane technology in western Uttar Pradesh. Ph.D. Thesis, C.C.S. University, Meerut; 2004.
14. Saritha S, Pushpa J. Extent of knowledge and adoption level of farmers about improved technologies on cashew-based dryland farming system. *Agric Update*. 2012;7(3-4):405-9.
15. Singh B, Chauhan TR. Adoption of mung bean production technology in arid zone of Rajasthan. *Indian Res J Ext Edu*. 2016;10(2):73-7.
16. Sunil GN. A study on farmers' knowledge and adoption of production and post-harvest technology in tomato crop of Belgaum district in Karnataka. University of Agricultural Sciences; 2004.